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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/219,199	12/22/1998	JAN LENNART KRANSMO	27943-00252U	2139

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ERICSSON INC.
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EXAMINER

EWART, JAMES D

ART UNIT	PAPER NUMBER
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2617

DATE MAILED: 08/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/219,199

Applicant(s)

KRANS MO ET AL.

Examiner

James D. Ewart

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 45-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 45-51 and 53-62 is/are rejected.
- 7) ☐ Claim(s) 52 and 63 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 18 May 2006 has been entered.

Response to Arguments

2. Applicant's arguments filed 18 May 2006, have been fully considered by the Examiner, but they are deemed moot in view of new grounds of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 45-51 and 56-62 are rejected under 35 U.S.C. 102(e) as being anticipated by Krasner (U.S. Patent No. 6,133,874).

Referring to claims 45 and 56, Krasner discloses a method of expediting startup procedures of a Global Positioning System (GPS) receiver associated with a mobile terminal (Column 4, Lines 48-65), the mobile terminal connected to a wireless telecommunications system having a Base Transceiver Station (BTS) (Figure 4), the BTS having operational control of the GPS-equipped mobile terminal (Figure 4), the method comprising the steps of: positioning a number of reference GPS receivers throughout the wireless telecommunications system (Column 12, Lines 22-27), each reference GPS receiver capable of providing assistance GPS data (Column 12, Lines 22-35), including identity of visible GPS satellites (Column 16, Lines 2-4) and associated orbital parameters (Column 12, Line 27), clock corrections (Column 14, Lines 29-33) and differential corrections (Column 13, Lines 10-15); sending a request from the GPS-equipped mobile terminal to the BTS for approximate navigational data (Column 15, Lines 42-44); utilizing the BTS location as an initial position estimate for the GPS-equipped mobile terminal and as a criterion for selecting one of the number of reference GPS receivers nearest the GPS-equipped mobile terminal (Column 15, Lines 52-58); retrieving relevant GPS assistance data from the selected reference GPS receiver (Column 15, Line 65 to Column 16, Line 22); the BTS sending navigational data, comprising the relevant assistance GPS data, to the GPS-equipped mobile terminal for estimating the current position of the GPS-equipped mobile terminal (Column 16, Lines 19-22); and utilizing the navigational data to acquire GPS signals from optimally situated GPS satellites (Column 4, Lines 48-59 and Column 16, Lines 2-4).

Referring to claims 46 and 57, Krasner further discloses wherein the step of estimating the current position of the GPS-equipped mobile terminal further comprises determining a cell

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ID corresponding to the cell in which the GPS-equipped mobile terminal is currently located (Column 15, Lines 8-12).

Referring to claims 47 and 58, Krasner further discloses wherein the step including selecting one of a number of reference GPS receivers further comprises determining the coordinates of the selected reference GPS receiver in a look-up table (Column 15, Line 62 to Column 16, Line 2 and Column 16, Lines 39-40). The position is affiliated with coordinates.

Referring to claims 48 and 59, Krasner further discloses wherein the step of sending a request to the BTS for approximate navigational data is responsive to activation of the mobile terminal (Column 15, Lines 45-46). The Examiner equates the activation with user request.

Referring to claims 49 and 60, Krasner further discloses wherein the step of sending a request to the BTS for approximate navigational data is responsive to placing a call from the GPS-equipped mobile terminal to one of a set of designated numbers (Column 15, Line 46).

Referring to claims 50 and 61, Krasner further discloses wherein the one designated number is associated with an emergency service (Column 15, Line 46).

Referring to claims 51 and 62, Krasner further discloses after the step of retrieving the relevant assistance data, the step of storing an estimated location of the one of the reference GPS

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receivers in said wireless telecommunications system (Column 12, Lines 36-55 and Column 13, Lines 10-16).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner and further in view of Kurby (U.S. Patent No. 5,999,125)

Referring to claim 53, Krasner teaches a method of expediting startup procedures of a Global Positioning System (GPS) receiver associated with a mobile terminal (Column 4, Lines 48-65), the mobile terminal connected to a wireless telecommunications system having a Base Transceiver Station (BTS) (Figure 4), the BTS having operational control of the GPS-equipped mobile terminal (Figure 4), the method comprising the steps of: positioning a number of reference GPS receivers throughout the wireless telecommunications system (Column 12, Lines 22-27), each reference GPS receiver capable of providing assistance GPS data (Column 12, Lines 22-35), which includes identified visible GPS satellites (Column 16, Lines 2-4) and orbital parameters (Column 12, Line 27), clock corrections and differential corrections associated with the visible GPS satellites (Column 14, Lines 29-33 and Column 13, Lines 10-15); sending a request from the GPS-equipped mobile terminal to the BTS for approximate navigational data

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(Column 15, Lines 42-44); utilizing the BTS location as an initial position estimate for the GPS-equipped mobile terminal and as a criterion for selecting one of the number of reference GPS receivers nearest the GPS-equipped mobile terminal (Column 15, Lines 52-58); retrieving relevant assistance data from the selected reference GPS receiver (Column 15, Line 65 to Column 16, Line 22); the BTS sending navigational data, comprising the relevant assistance GPS data, to the GPS-equipped mobile terminal for estimating the current position of the GPS-equipped mobile terminal (Column 16, Lines 19-22); and utilizing the navigational data to acquire the GPS signals from optimally situated GPS satellites (Column 4, Lines 48-59 and Column 16, Lines 2-4), but does not teach determining whether the GPS signal strength at the GPS-equipped mobile terminal is adequate to permit initialization of the reference GPS receiver associated with the GPS-equipped mobile terminal within a desired response time (Column 2, Lines 1-2, 22-27 & 42-45; Column 8, Lines 66-67 and Column 9, Lines 1-20); if not, sending a request from the GPS-equipped mobile terminal to the BTS for approximate navigational data (Column 9, Lines 1-20). Kurby teaches determining whether the GPS signal strength at the GPS-equipped mobile terminal is adequate to permit initialization of the reference GPS receiver associated with the GPS-equipped mobile terminal within a desired response time; if not, sending a request from the GPS-equipped mobile terminal to the BTS for approximate navigational data. Therefore at the time the invention was made, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Krasner with the teaching of Kurby of determining whether the GPS signal strength at the GPS-equipped mobile terminal is adequate to permit initialization of the reference GPS receiver associated with the GPS-equipped mobile terminal within a desired response time; if not, sending a request from the GPS-equipped mobile terminal

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to the BTS for approximate navigational data to conserve battery power (Column 3, Lines 26-27). The claim doesn't state measuring signal strength and the Kurby reference suggests that for invalid stored data, it is determined that no signal strength is sufficient to obtain a desired response time and a request is made for the data.

5. Claims 54 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner in further view of Hermansson et al. (U.S. Patent No. 5,987,319).

Referring to claim 54, Krasner teaches a method of expediting startup procedures of a Global Positioning System (GPS) receiver associated with a mobile terminal (Column 4, Lines 48-65), the mobile terminal connected to a wireless telecommunications system having a Base Transceiver Station (BTS) (Figure 4), the BTS having operational control of the GPS-equipped mobile terminal (Figure 4), the method comprising the steps of: positioning a number of reference GPS receivers throughout the wireless telecommunications system (Column 12, Lines 22-27), each reference GPS receiver capable of providing relevant assistance GPS data (Column 12, Lines 22-35), which includes identified visible GPS satellites (Column 16, Lines 2-4) and orbital parameters (Column 12, Line 27), clock corrections and differential corrections associated with the visible GPS satellites (Column 14, Lines 29-33 and Column 13, Lines 10-15); sending a request from the GPS-equipped mobile terminal to the BTS for approximate navigational data (Column 15, Lines 42-44); utilizing the BTS location as an initial position estimate for the GPS-equipped mobile terminal as a criterion for selecting one of the number of reference GPS receivers nearest the GPS-equipped mobile terminal (Column 15, Lines 52-58);

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retrieving relevant assistance data from the selected reference GPS receiver (Column 15, Line 65 to Column 16, Line 22); the BTS sending navigational data, comprising the relevant assistance GPS data, to the GPS-equipped mobile terminal for estimating the current position of the GPS-equipped mobile terminal (Column 16, Lines 19-22); and utilizing the navigational data to acquire the GPS signals from optimally situated GPS satellites (Column 4, Lines 48-59 and Column 16, Lines 2-4), but does not teach periodically transmitting a Timing Advance parameter from the Base Transceiver Station to the mobile terminal to dynamically compensate for varying distances between the mobile terminal and the Base Transceiver Station; refining the approximate location of the mobile terminal using the Timing Advance parameter. Hermansson teaches periodically transmitting a Timing Advance parameter from the Base Transceiver Station to the mobile terminal to dynamically compensate for varying distances between the mobile terminal and the Base Transceiver Station; refining the approximate location of the mobile terminal using the Timing Advance parameter (col. 5 lines 11-16). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Krasner with the teaching of Hermansson of periodically transmitting a Timing Advance parameter from the Base Transceiver Station to the mobile terminal to dynamically compensate for varying distances between the mobile terminal and the Base Transceiver Station; refining the approximate location of the mobile terminal using the Timing Advance parameter in order to update mobile terminals location information.

Referring to claim 55, Krasner further teaches wherein the step of estimating the current position of the GPS-equipped mobile terminal further comprises the steps of: recovering

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respective navigational data signals from demodulated GPS signals from the GPS satellites; and determining, from the respective navigational data signals, the location of the reference GPS receiver (Column 9, Lines 57-65 and Column 16, Lines 37-45).

Allowable Subject Matter

6. Claims 52 and 63 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reason for allowable subject matter is provided below:

Referring to claims 52 and 63, the references cited do not teach wherein the step of estimating the current position of the GPS-equipped mobile terminal further comprises the steps of: utilizing a timing reference between a GPS clock signal and a frame number, wherein the timing reference comprises a correlation between the frame number and the GPS clock signal at the one of the reference GPS receivers and broadcasting the correlation to the GPS-equipped mobile terminal.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kingdon U.S. Patent No. 6,477,379 discloses system and method for positioning a mobile station using two base stations.

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Krangas et al. U.S. Patent No. 6,356,763 discloses downlink observed time difference measurements.

Krasner U.S. Patent No. 5,874,914 discloses GPS receiver utilizing a communication link.

Krasner U.S. Patent No. 5,663,734 discloses GPS receiver and method for processing GPS signals.

Lau U.S. Patent No. 5,883,594 discloses GPS receiver using a message system for reducing power consumption.

Richton et al. U.S. Patent No. 6,114,991 discloses auxiliary system for assisting a wireless terminal in determining its position from signals transmitted from a navigation satellite.

Richton et al. U.S. Patent No. 6,538,600 discloses wireless assisted GPS using a reference location.

Schuchman et al. U.S. Patent No. 5,365,450 discloses hybrid GPS/DATA line unit for rapid, precise and robust position determination.

Sheynblat U.S. Patent No. 6,307,504 discloses method and system for using altitude information in a satellite positioning system.

Vanderspool, II U.S. Patent No. 6,108,558 discloses method for calculating a location of a remote unit utilizing observed time difference (OTD) and real time difference (RTD) measurements.

Vannucci U.S. Patent No. 6,256,475 discloses telecommunications-assisted satellite positioning system.

Watters et al. U.S. Patent No. 6,249,245 discloses GPS and cellular system interworking.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James D. Ewart whose telephone number is (571) 272-7864. The examiner can normally be reached on M-F 7am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on (571)272-7872. The fax phone numbers for the organization where this application or proceeding is assigned are (571) 273-8300 for regular communications and (571) 273-8300 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2600.



Ewart
July 25, 2006



WILLIAM TROST
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